Communicating UAF's Return on Investment in the Computational Sciences

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Introduction

Using graphic design and statistics to analyze and present complex fiscal information in an easily understood format, my research focuses on mastering the dynamic process of communicating scientific information. Required for this process is the ability to evaluate the specific needs of an organization, to gather requirements, criteria and constraints of the information to be communicated, and to develop expertise using the Excel[1], Adobe Photoshop[2], Illustrator[3], and InDesign[4] software applications. This poster will demonstrate the application of this process using various techniques to visually demonstrate fiscal information to inform and educate University Leadership about resource use at the Arctic Region Supercomputing Center for the 2011 fiscal year.

Method

Evaluate the Message to be Communicated
"Supporting Arctic Research" was created to demonstrate UAF's return on investment ratio and to express ARSC's importance to the state of Alaska's research community. The publication's target audience was university officials interested in ARSC's resource use. A tri-fold pamphlet was chosen to represent this information because of its portability and engagement value.

Requirements Gathering
Information was gathered and analyzed in a Microsoft Excel spreadsheet with instructions to describe ARSC's external funding and resource use by Core Research Area. Using self reported funding amounts from ARSC users, UAF's return on investment ration was calculated for the 2011 fiscal year.

Implementation
Using previous ARSC publications as examples, a tri-fold template (see Figure 1) was selected to emphasize ARSC's return on investment ratio. Many iterations of data figures were created including pie charts, bar graphs, and histograms. The selected horizontal and vertical bar graphs were utilized for communicating the lack of correlation in ARSC resource use and external funding dependent on ARSC. To make this data more interesting to the reader, these graphs were placed on images modified in Adobe Photoshop as shown in Figure 2. Several designs were adapted and vetted during the design process as shown Figure 3, a previous draft.

Figure 1: "Emphasis on Arctic" template used to create "Supporting Arctic Research" tri-fold publication.

Results

The final draft shown in Figures 4 and 5 demonstrates UAF's return on investment ratio for the 2011 fiscal year and ARSC's importance to Arctic research across the state of Alaska. Through interactive data figures and eye-catching color schemes, the ARSC "Supporting Arctic Research" tri-fold pamphlet succeeded in conveying ARSC's resource use distribution and UAF's return on investment ratio for the 2011 fiscal year.

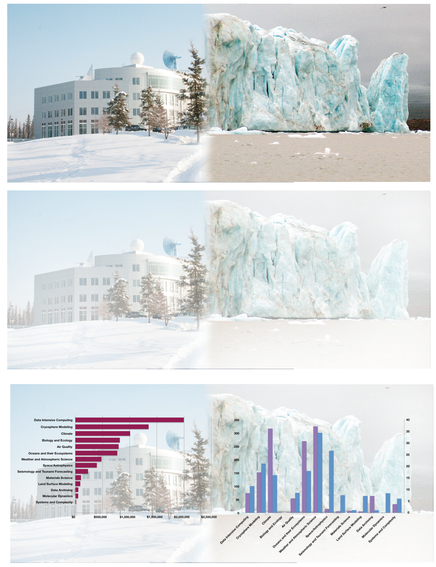

Figure 2: Images modified in photoshop to provide a back drop for ARSC resource use information and funding amounts.

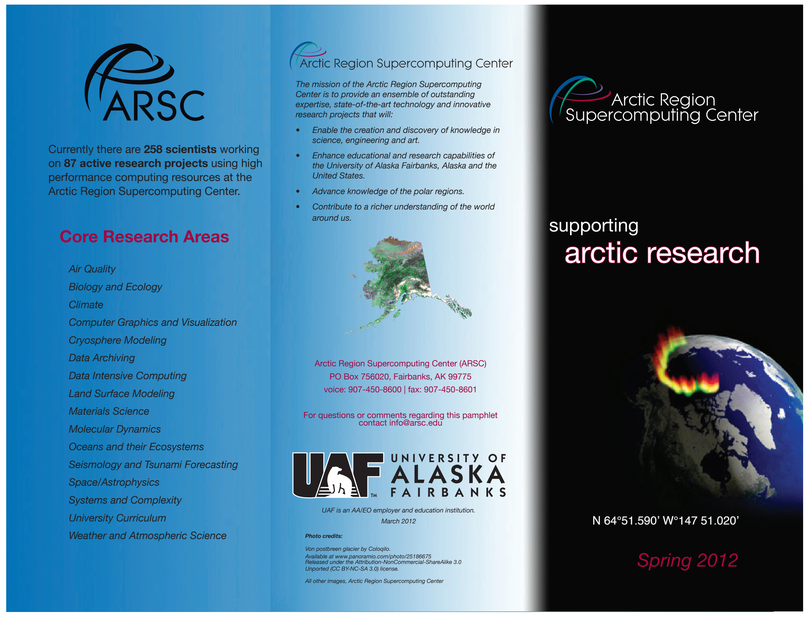

Figure 4: Final Cover of ARSC "Supporting Arctic Research" pamphlet.

Conclusion

Despite the short timeline between receipt of the raw Excel spreadsheet data and the deadline for delivering the final draft to UAF Printing Services, this project finished successfully. The final publication was delivered, on time, to University Leadership personnel in both printed and digital versions.

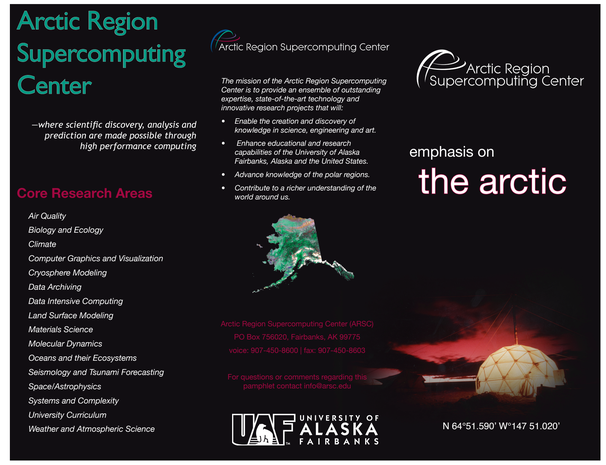

Figure 3: One of many drafts vetted during the design process.

References

1. "Microsoft Excel" 2010, <http://office.microsoft.com>
2. "Adobe Photoshop CS5" <http://www.adobe.com/products/creativesuite/design.html>
3. "Adobe Illustrator CS5" <http://www.adobe.com/products/creativesuite/design.html>
4. Adobe InDesign CS5" <http://www.adobe.com/products/creativesuite/design.html>

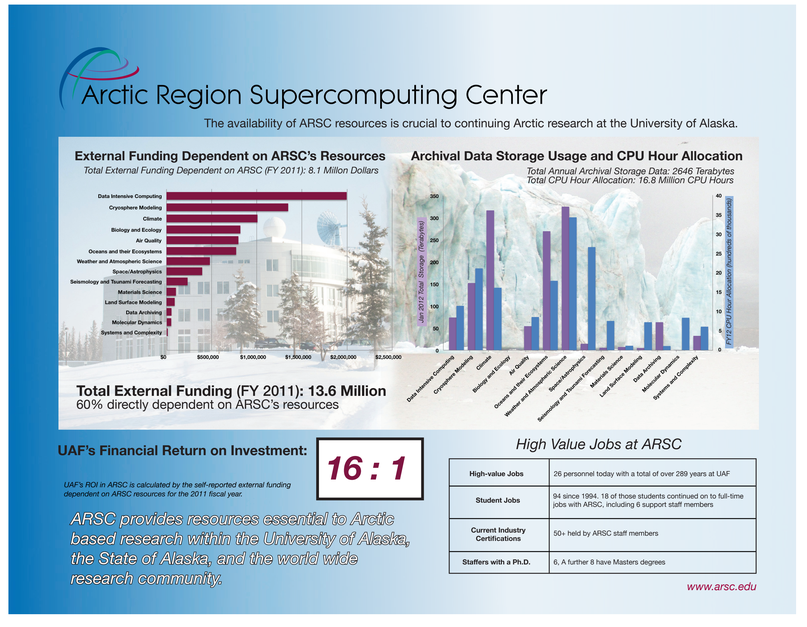

Figure 5: Final inside of ARSC "Supporting Arctic Research" pamphlet.